Indiana Crop & Weather Report

United States Dept of Agriculture

Indiana Agricultural Statistics Service | 1435 Win Hentschel Blvd. Suite B105 | West Lafayette, IN 47906-4145 (765) 494-8371

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CROP REPORT FOR WEEK ENDING MAY 23

AGRICULTURAL SUMMARY

Rain, along with strong thunderstorms, moved through the state during the week halting field activities in most areas, according to the Indiana Agricultural Statistics Service. Recent precipitation has helped replenish both topsoil and subsoil moisture around the state. Some ponding and flooding has occurred in low lying areas of fields. Emerged corn and soybeans look good. Weeds are becoming a problem in fields not yet planted. First cutting of hay crops has been slow because of the frequent showers.

FIELD CROPS REPORT

There were 2.5 **days suitable for fieldwork**. Ninety-six percent of the intended **corn** acreage is planted compared with 70 percent for last year and 79 percent for the 5-year average. Eighty-eight percent of the corn acreage has **emerged** compared with 54 percent last year and 64 percent for the average. By area, 89 percent of the corn is planted in the north, 90 percent in the central region and 81 percent in the south. Seventy-eight percent of the intended **soybean** acreage is planted compared with 36 percent last year and 60 percent for the average. Sixty-one percent of the soybean acreage has **emerged** compared with 19 percent last year and 40 percent for the average. By area, 82 percent of the soybean acreage is planted in the north, 85 percent in the central region and 57 percent in the south.

Ninety-two percent of the winter wheat is **headed** compared with 77 percent last year and 81 percent for the average. Winter wheat **condition** is rated 82 percent good to excellent compared with 81 percent last year at this time. Setting of **tobacco** plants is 14 percent complete compared with 6 percent last year and 17 percent for average. First cutting of **alfalfa hay** is 16 percent complete.

Major activities during the week were tillage of soils, spraying herbicides, repairing equipment, moving grain to market, hauling manure and taking care of livestock.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 17 percent excellent, 66 percent good, 15 percent fair and 2 percent poor. Livestock are in mostly good condition.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
	Percent			
Corn Planted	96	93	70	79
Corn Emerged	88	71	54	64
Soybeans Planted	78	66	36	60
Soybeans Emerged	61	31	19	40
Winter Wheat Headed	92	65	77	81
Tobacco Plants Set	14	6	6	17

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excel-lent
			Percent		
Corn	0	2	12	63	23
Winter Wheat 2004	1	2	15	63	19
Pasture	0	2	15	66	17

SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
		Percent	
Topsoil			
Very Short	0	1	0
Short	2	8	0
Adequate	65	73	56
Surplus	33	18	44
Subsoil			
Very Short	2	3	0
Short	10	15	4
Adequate	71	73	60
Surplus	17	9	36
Days Suitable	2.5	4.1	3.1

CONTACT INFORMATION

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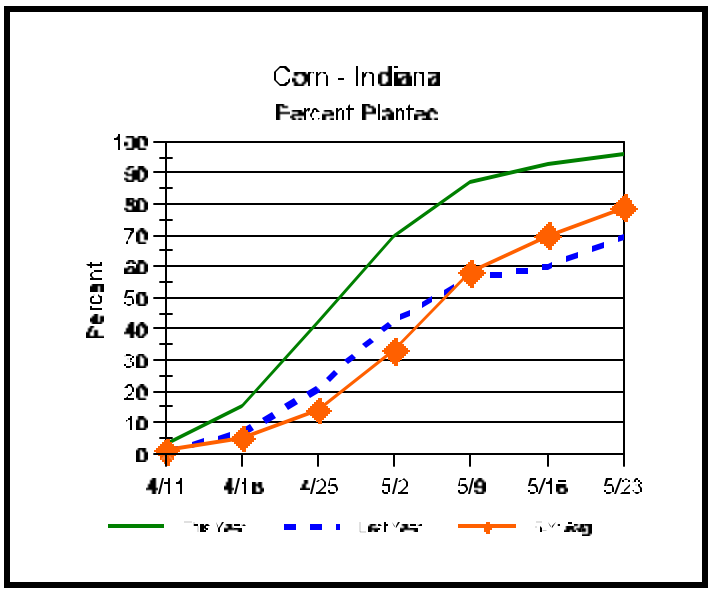
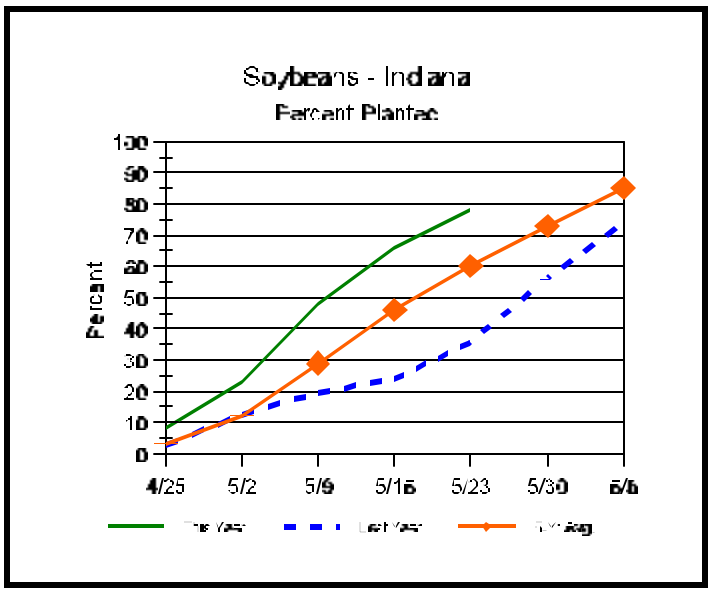
Crop Progress





Other Agricultural Comments And News

Effects of Flooding or Ponding on Young Corn

Recent intense rainfall events (technically referred to as "toad stranglers" or "goose drowners") in southern Indiana have caused flooding of low-lying corn fields or ponding in poorly drained swales within fields. Other areas within fields, while not technically flooded or ponded, may remain saturated for lengthy periods of time. What are the prospects for recently planted or emerged corn?

For corn that has been recently planted, but is not yet emerged, the obvious risk is with surface soil crusts that may develop following a severe downpour. The risk is particularly high for conventionally tilled fields. Corn emergence can be especially challenging when a dense surface crust "sets up". The resistance of a crust to coleoptile penetration often results in corkscrewed mesocotyl elongation below the surface and eventual leafing out underground if coleoptile emergence is delayed long enough.

Monitor high-risk fields where corn emergence has not yet occurred and be prepared to use a rotary hoe if necessary to break up the crust and aid emergence. Don't dawdle on using the rotary hoe until the crust has baked dry into "concrete". Operate the hoe at a good speed and do not worry about the occasional corn seedling that is flipped out of the soil. A side benefit to breaking a dense soil crust is the resulting enhanced soil aeration.

The "wet feet" caused by flooding or ponding creates other risks for corn that has already emerged, primarily because soil oxygen is depleted after about 48 hours of soil saturation. Without oxygen, the plants cannot perform critical life sustaining functions; e.g., nutrient and water uptake is impaired and root growth is inhibited.

The growth stage of a corn crop greatly influences whether ponding or saturated soils kills, severely stunts, or mildly stunts the corn plants. Plants younger than V6 (six visible leaf collars) are susceptible to damage for two reasons. First of all, the growing point is at or below the soil surface from VE to about V6 (Nielsen, 2004) and therefore is directly subject to the stress of oxygen-depleted conditions. In plants older than V6, the growing point may be above the water level and the likelihood for survival improves greatly.

Secondly, plants younger than V6 are in the process of trying to successfully establish a vigorous root system. Stunting or death of roots by oxygen-depletion can be a major stress for a plant that is not yet fully established.

Prior to leaf stage V6, corn can survive only two to four days of flooded or ponded conditions. If temperatures are warm during that time (mid-70s˚ or higher) such young plants may not survive 24 hours. Cooler temperatures prolong survival.

The likelihood of crop injury is less where the flooded or ponded conditions last less than 48 hours. To confirm plant survival, check the color of the growing point and look for new leaf growth three to five days after water drains from the field. Healthy growing points will be firm and yellowish-white, not mushy and discolored.

Plants older than V6 will tolerate ponding or saturated soils longer for essentially the opposite reasons. As plants develop beyond V6, rapid stalk elongation elevates the growing point region above the soil surface and, thus, away from the direct stress of flooded soils. Secondly, an older crop's root system will simply be larger and consequently the crop can tolerate a certain amount of root death without dying or dramatic stunting.

Nonetheless, extended periods of saturated soils plus warm temperatures will take their toll on the overall vigor of the crop. Some root death will occur and new root growth will be stunted until the soil dries to acceptable moisture contents. As a result, plants may be subject to greater injury during a subsequently dry summer due to their restricted root systems.

(Continued on Page 4)

Weather Information Table

Week ending Sunday May 23, 2004

Station	Past Week Weather Summary Data							Accumulation April 1, 2004 thru May 23, 2004				
	Air Temperature				Precip.		Avg 4 in Soil	Precipitation			GDD Base 50°F	
	Hi	Lo	Avg	DFN	Total	Days	Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Chalmers_5W	88	43	70	+7	1.27	4	66	5.34	-1.23	16	495	+109
Valparaiso_AP_I	84	48	67	+7	0.27	5		4.46	-2.33	18	471	+158
Wanatah	85	44	66	+6	0.34	6	68	4.61	-1.88	21	421	+151
Wheatfield	82	48	66	+5	1.62	4		9.88	+3.56	28	445	+153
Winamac	83	50	68	+7	0.52	4		4.94	-1.31	21	479	+145
North Central(2)												
Plymouth	83	53	68	+6	0.44	5		5.65	-1.01	21	451	+99
South_Bend	83	51	69	+9	1.21	5		4.31	-1.83	21	517	+223
Young_America	86	57	72	+11	0.58	4		3.79	-2.45	16	537	+208
Northeast (3)												
Columbia_City	84	53	69	+9	1.12	5		4.90	-1.28	22	459	+188
Fort_Wayne	85	52	70	+8	0.69	5		4.26	-1.65	20	503	+193
West Central (4)												
Greencastle	85	54	72	+8	1.92	3		5.88	-1.40	19	519	+93
Perrysville	89	55	73	+11	1.02	3	71	5.90	-0.97	15	597	+225
Spencer_Ag	86	54	73	+10	0.29	2		5.58	-2.06	20	548	+172
Terre_Haute_AFB	89	57	75	+11	1.20	2		3.75	-3.54	13	642	+219
W_Lafayette_6NW	88	51	71	+9	0.78	3	73	4.41	-2.24	14	549	+214
Central (5)												
Eagle_Creek_AP	86	56	73	+9	1.61	5		4.53	-2.16	19	581	+169
Greenfield	87	53	72	+9	1.37	2		4.69	-2.61	18	530	+159
Indianapolis_AP	87	58	74	+10	1.38	2		4.95	-1.74	17	622	+210
Indianapolis_SE	86	54	72	+9	1.20	3		4.70	-2.44	17	553	+160
Tipton_Ag	86	52	72	+11	0.64	3		3.47	-3.29	16	501	+201
East Central (6)												
Farmland	84	53	72	+11	0.84	5		4.92	-1.43	22	502	+212
New_Castle	84	51	70	+9	0.77	2		4.38	-3.01	17	425	+127
Southwest (7)												
Evansville	89	59	76	+9	0.79	2		6.43	-1.19	18	732	+178
Freelandville	86	55	73	+9	0.36	3		4.10	-3.60	19	625	+177
Shoals	87	55	73	+10	0.72	2		6.64	-1.44	23	630	+196
Stendal	87	56	74	+9	1.71	2		6.92	-1.42	16	685	+189
Vincennes_5NE	87	55	74	+9	0.81	3		5.69	-2.01	21	671	+223
South Central(8)												
Leavenworth	86	56	73	+10	1.12	3		9.01	+0.81	21	620	+180
Oolitic	85	54	72	+9	0.08	2		5.60	-2.03	22	560	+167
Tell_City	88	60	76	+10	0.50	2		8.34	-0.07	21	740	+229
Southeast (9)												
Brookville	87	53	72	+11	1.87	3		7.17	-0.20	20	532	+191
Milan_5NE	86	55	73	+11	1.44	5		7.62	+0.25	28	552	+211
Scottsburg	85	56	73	+9	1.26	3		9.24	+1.70	24	605	+153

DFN = Departure From Normal (Using 1961-90 Normals Period).
GDD = Growing Degree Days.
Precipitation (Rainfall or melted snow/ice) in inches.
Precipitation Days = Days with precip of .01 inch or more.
Air Temperatures in Degrees Fahrenheit.

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Effects of Flooding or Ponding on Young Corn (Continued)

Concomitant (I found a new word in the dictionary!) with the direct stress of saturated soils on a corn crop, flooding and ponding can result in significant losses of soil nitrogen through the processes of denitrification and leaching of nitrate N. Significant loss of soil N will cause nitrogen deficiencies and possible additional yield loss. Brouder & Joern (1998) offer guidelines in estimating the amount of nitrogen loss due to saturated soils and making decisions on application of additional nitrogen fertilizer to fields once ponded.

Lengthy periods of wet soil conditions favor the development of seedling blight diseases, especially those caused by *Pythium* fungi (Ortiz-Ribbing, 2001). Poorly drained areas of fields are most at risk for the development of these diseases and so are also at most risk for potential replant operations if significant stand loss occurs due to seedling blight outbreaks.

Certain diseases, such as common smut and crazy top, may also become greater risks due to flooding and cool temperatures (Bissonnette,2002). The fungus that causes crazy top depends on saturated soil conditions to infect corn seedlings. The common smut fungal organism is ubiquitous in soils and can infect young corn plants through tissue damaged by floodwaters. There is limited hybrid resistance to either of these two diseases and predicting damage is difficult until later in the growing season.

Select References:

Bissonnette, Suzanne. 2002. Odd Plant Diseases Due to Odd Season. Univ. of Illinois Pest & Crop Bulletin, 6/21/02. Online at <www.ag.uiuc.edu/cespubs/pest/articles/200213j.html> [URL verified 5/7/04].

Brouder, Sylvie and Brad Joern. 1998. Predicting Early Season N Loss. Purdue Univ. Online at <www.kingcorn.org/news/articles.98/smb9802.html> [URL verified 5/7/04].

Farnham, Dale. 1999. Corn survival in wet conditions. Iowa State Univ. Integrated Crop Management Newsletter, 5/24/1999. Online at <www.ent.iastate.edu/ipm/icm/1999/5-24-1999/wetcorn.html> [URL verified 5/7/04].

National Soil Survey Center. 1996. Soil Quality Indicators: Soil Crusts. USDA-Natural Resources Conservation Service. Online at <http://soils.usda.gov/sqi/files/sq_sev_1.pdf> [URL verified 5/7/04].

Nielsen, R. L. (Bob). 2004. Growing Points of Interest. Corny News Network, Purdue Univ. Online at <www.kingcorn.org/news/articles.04> Growing Points-0507.html. (URL verified 5/7/04).

Ortiz-Ribbing, Loretta. 2001. Seedling Blights Caused by Pythium spp. Univ. of Illinois Pest & Crop Bulletin, 5/4/2001. Online at <www.ag.uiuc.edu/cespubs/pest/articles/200106g.html> [URL verified 5/7/04].

Thomison, Peter. 1995. Effects of Flooding and Ponding on Corn (AGF-118-95). Ohio State Univ. Online at <www.ag.ohio-state.edu/~ohioline/agf-fact/0118.html> [URL verified 5/7/04].

Don't forget, this and other timely information about corn can be viewed at the Chat 'n Chew CafÈ on the Web at <www.kingcorn.org/cafe>. For other information about corn, take a look at the Corn Growers' Guidebook on the Web at <www.kingcorn.org>.

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